



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/544,000	04/06/2000	David A. Cathey	3976US (98-0063)	7982

7590 11/15/2004

James R Duzan
Trask Britt & Rossa
PO Box 2550
Salt Lake City, UT 84110

EXAMINER

ABDULSELAM, ABBAS I

ART UNIT	PAPER NUMBER
----------	--------------

2674

DATE MAILED: 11/15/2004

16

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/544,000

Applicant(s)

CATHEY, DAVID A.

Examiner

Abbas I Abdulsalam

Art Unit

2674

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,5,8,9,19 and 22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5,8,9,19 and 22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION**Response to Arguments**

1. Applicant's arguments filed 12/08/03 have been fully considered but they are not persuasive.

Applicant argues that the cited reference Dreher (US Pat. No. 4,551,717) does not teach a key cap with respect to a first material having no electrical connection thereto including one of a black material and a dark-colored non-luminescent material. Applicant also argues that Dreher does not teach a second luminescent material different than the first material forming the identifying graphic symbol; the second luminescent material embedded within each key cap substantially throughout. However, as shown in the art rejection below, Dreher on the other hand teaches that the exact shape and configuration of the key body (10) and the key cap (11) can vary depending upon the configuration of the keyboard into which it is mounted to reflect the desired styling. Dreher also teaches that the top of the key is made of a clear plastic, glass or other transparent substance. Furthermore, Dreher teaches that the key cap (11) has a lens (12) through which a character display (40) will be visible. See col. 2, lines 3-9, 26-37 and 42-47.

2. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Art Unit: 2674

3. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to employ Takami's (US Pat. No. 4,205,522) the tritium for illuminating the LCD display embedded in the key cap of Dreher because it will provide cheap natural back light source for displaying key designation and would readily understood by those skilled in the art that it would represent an alternative choice for a backlight, which advantageously does not require additional electrical power.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2 and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dreher (USPN 4551717).

In regard to claims 1 and 8-9, Dreher discloses a computer keyboard comprising: an enclosure member; plurality of depressible key switch (10) devices arrayed above said printed circuit board (col. 2, lines 60-65); a key cap (11) mounted atop each switch device of plurality, each key cap having at least

Art Unit: 2674

one identifying graphic symbol (20) (Fig. 3, col. 3, lines 2-3) formed on an upper surface thereof (see Figs 1-3) and luminescent material embedded within each key cap (11) (col. 1, lines 47-50). Further, Dreher teaches a key (10) for use on a terminal with a key cap top has a luminescent material (14) (LED) embedded with the key cap (11). However, Dreher does not specifically teach a key cap with respect to a first material having no electrical connection thereto including one of a black material and a dark-colored non-luminescent material. Dreher also does not specifically teach a second luminescent material different than the first material forming the identifying graphic symbol, the second luminescent material embedded within each key cap substantially throughout. Dreher on the other hand teaches that the exact shape and configuration of the key body (10) and the key cap (11) can vary depending upon the configuration of the keyboard into which it is mounted to reflect the desired styling. Dreher also teaches that the top of the key is made of a clear plastic, glass or other transparent substance. Furthermore, Dreher teaches that the key cap (11) has a lens (12) through which a character display (40) will be visible. See col. 2, lines 3-9, 26-37 and 42-47.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize Dreher's teaching of various materials, configurations and style to establish a preferred arrangement of the material, and type of material with respect to key cap and key body. One would have been motivated in view of the suggestion that a key cap with various materials, style and configurations equivalently meet the desired luminescent materials and their arrangements. Moreover, it would have been obvious to one of ordinary skill in the art to utilize Dreher's lens (12) and display (40) for the purpose of identifying a character. One would have been motivated in view of the suggestion that the display (40) as configured in Fig. 1 can be used to achieve the desired identification of graphic symbol.

Art Unit: 2674

As to claim 2, Dreher teaches keys for keyboards (col. 1, lines 5-7) and all features are well known in the art.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dreher in view of Takami (US Pat. No. 4,205,522).

In regard to claim 5, Dreher has been discussed above. In addition, Dreher discloses computer keyboard comprising: an enclosure member with printed circuit board (Fig. 1), a plurality of depressible key switch devices arrayed above said printed circuit board (col.2, lines 60-65); a key cap (11) mounted atop each switch device of plurality, each key cap having at least one identifying graphic symbol (20) (Fig. 3, col. 3, lines 2-3) formed on an upper surface thereof (see Figs 1-3) and luminescent material embedded within each key cap.

Dreher does not teach a "luminescent material including tritium" within at least one symbol of key cap. However, Takami discloses an LCD device, which includes a luminescent phosphor, the luminescent phosphor includes a tritium (see the abstract). Thus, it would have been obvious to

One of ordinary skill in the art at the time of the invention was made to employ the tritium for illuminating the LCD display embedded in the key cap of Dreher because it will provide cheap natural back light source for displaying key designation and would readily understood by those skilled in the art that it would represent an alternative choice for a backlight, which advantageously does not require additional electrical power.

6. Claim 22 is rejected under 35 U. S. C. 103 (a) as being unpatentable over Dreher-Takami in view of Schneider et al. and further in view of Eventoff.

In regard to claim 22, Dreher-Takami has been discussed above. However, Dreher-Takami discloses computer keyboard comprising: an enclosure member with printed circuit board, a plurality of depressible key switch devices arrayed above said printed circuit board (col.2, lines 60-65); a key cap mounted atop each switch device of plurality, each key cap having at least one identifying graphic symbol formed on an upper surface thereof and luminescent material embedded within each key cap. Dreher-Takami teaches a luminescent material including tritium within at least one symbol of key cap.

Dreher -Takami does not teach a "transmitter powered by chemical source of electrical power" and an "insulative material layer covered with circuit traces".

However, Schneider et al. discloses a wireless keyboard includes an enclosure member (403), a RF transmitter (410) mounted on enclosure member (403) (Fig. 6a-6C) and a chemical source of electrical power (col. 3, lines 29-32). Thus, it would have been obvious to one of ordinary skill in the art to utilize the transmitter of Harrison et al. in the keyboard of Dreher-Takami to provide a remote keyboard with the same power source to power the keyboard to computer communication link. The combination of Dreher-Takami-Schneider fail to disclose an "insulative material layer covered with circuit traces". However, Eventoff however shows the concept of using an insulative material covered with circuit traces (col. 6, lines 13-20) is old.

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize the insulative material of Schneider incorporate in the keyboard of Dreher-Takami-Schneider to provide a remote keyboard having using luminescent keys for improved viewing in dark condition.

Art Unit: 2674

7. Applicant's arguments with respect to claim 19 have been considered but are moot in view of the new ground(s) of rejection.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stanek (US pat. No. 5,936,554) in view of Dreher (USPN 4551717). Schneider et al. (US Pat. No. 6,507,763 131), Eventoff (US Pat. No. 4,451,714).

In regard to claim 19, Stanek disclose a remote keyboard (10) comprising an enclosure member (10); a key cap (26) mounted atop each switch device of plurality of switch devices; each key cap having at least one identifying graphic symbol on a surface thereof (col. 4, lines 15); and luminescent embedded within a portion of each key (Fig. 3, col. 3, lines 6-10), lines 3639). Stanek does not teach a key cap with respect to a first material having no electrical connection thereto including one of a black material and a dark-colored non-luminescent material. Stanek also does not teach a second luminescent material different than the first material forming the identifying graphic symbol, the second luminescent material embedded within each key cap substantially throughout.

Dreher on the other hand teaches that the exact shape and configuration of the key body (10) and the key cap (11) can vary depending upon the configuration of the keyboard into which it is mounted to reflect the desired styling. Dreher also teaches that the top of the key is made of a clear plastic, glass or other transparent substance. Furthermore, Dreher teaches that the key cap (11) has a lens (12) through which a character display (40) will be visible. See col. 2, lines 3-9, 26-37 and 42-47.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Stanek's input device to incorporate Dreher's teaching of various materials, configurations and style with respect to key cap and key body. One would have been motivated in view of the suggestion that a key cap with various materials, style and configurations equivalently meet the

Art Unit: 2674

desired luminescent materials and their arrangements. The use of various materials, configurations and style with respect to key cap and key body helps function a keyboard.

Stank does not teach or suggest that a "chemical source of electrical power " and a "transmitter" and an "insulative material layer covered with circuit traces". Schneider et al. discloses a wireless keyboard includes an enclosure member (403), a RF transmitter (410) mounted on enclosure member (403) (Fig. 6a-6C) and a chemical source of electrical power (col. 3, lines 29-32).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize the transmitter and chemical source of electrical power of Schneider et al. in the keyboard of Stanek to provide a wireless keyboard having interactively illuminating keys, each key is also to a command to dim the key.

The combination of Stanek- Schneider fail to teach or suggest an "insulative material layer covered with circuit traces". Eventoff, however shows the concept of using an insulative material covered with circuit traces (col. 6, lines 13-20) is old. Thus, it would have been obvious to one of ordinary skill in the art to utilize the insulative material of Stanek in the keyboard of Stanek-Schneither to provide a keyboard having switching circuit assemblies without spacers to effect electrical isolation between opposing circuit traces and switch circuits.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action

Art Unit: 2674

is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communication from the examiner should be directed to **Abbas Abduselam** whose telephone number is **(703) 305-8591**. The examiner can normally be reached on Monday through Friday (9:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard Hjerpe**, can be reached at **(703) 305-4709**.

Any response to this action should be mailed to:

Commissioner of patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314

Hand delivered responses should be brought to Crystal Park II, Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology center 2600 customer Service office whose telephone number is (703) 306-0377.


XIAO WU
PRIMARY EXAMINER

Abbas Abduselam

Examiner

Art Unit 2674